

REMARKS/ARGUMENTS

Status of the Claims

Upon entry of the present amendment, claims 55-81 are pending. Claims 1-54 are canceled without disclaimer or prejudice to renewal.

New claim 55 finds support, for example, on page 5, lines 3-10 and 17-18; on page 17, lines 21-24; on page 20, lines 31-32; on page 21, lines 9-10; and on page 22, lines 10-12.

New claim 56 finds support, for example, on page 5, lines 28-29.

New claim 57 finds support, for example, on page 5, lines 29-30.

New claim 58 finds support, for example, on page 5, lines 30-32.

New claims 59-60 find support, for example, on page 4, lines 30-31 and on page 5, lines 32-34.

New claim 61 finds support, for example, on page 5, line 28.

New claim 62 finds support, for example, on page 6, lines 10-11 and on page 17, lines 25-29.

New claim 63 finds support, for example, on page 2, lines 3-9, on page 5, lines 11-13, on page 6, lines 17-18 and on page 17, lines 29-34.

New claims 64-65 find support, for example, page 2, lines 3-9, on page 5, lines 11-13, on page 17, lines 25-34.

New claim 66 finds support, for example, on page 2, lines 3-4 and page 18, lines 15-16.

New claim 67 finds support, for example, on page 6, lines 1-2.

New claims 68-69 find support, for example, on page 6, lines 2-4.

New claim 70 finds support, for example, on page 6, lines 4-5.

New claim 71 finds support, for example, on page 22, lines 11-12.

New claim 72 finds support, for example, on page 23, lines 14-19.

New claim 73 finds support, for example, on page 20, lines 22-25.

New claim 74 finds support, for example, on page 20, lines 22-24.

New claim 75 finds support, for example, on page 3, lines 12-16, on page 5, lines 3-10 and 17-21, on page 20, lines 20-29 and on page 21, lines 8-9.

New claim 76 finds support, for example, on page 20, line 34 through page 21, line 2.

New claim 77 finds support, for example, on page 37, line 25 through page 38, line 25, on page 42, line 30 through page 44, line 25 and on page 22, lines 11-12.

New claim 78 finds support, for example, on page 36, line 20 through page 37, line 10, on page 42, line 30 through page 44, line 25 and on page 22, lines 11-12.

New claim 79 finds support, for example, on page 37, lines 11-24, on page 42, line 30 through page 44, line 25 and on page 22, lines 11-12.

New claim 80 finds support, for example, on page 40, lines 12-33, on page 42, line 30 through page 44, line 25 and on page 22, lines 11-12.

New claim 81 finds support, for example, on page 38, line 31 through page 39, line 19, on page 42, line 30 through page 44, line 25 and on page 22, lines 11-12.

Interview with the Examiner

Applicants thank Examiner Clow and her Supervising Examiner, Examiner Moran for graciously granting the personal interview with Applicant and Applicants' attorneys on July 28, 2005. The issues discussed during the interview are set forth in the Interview Summary. During the interview, proposed claims corresponding to new claims 55-85 were presented. Examiner Clow and Supervising Examiner Moran indicated that the new claims addressed the pending concerns regarding enablement and would be allowable upon a showing of support in the specification.

Rejection under 35 U.S.C. § 112, first paragraph, new matter

The Examiner has rejected claim 54 under 35 U.S.C. § 112, first paragraph, for allegedly reciting new matter. This rejection is rendered moot by the cancellation of claim 54.

Rejection under 35 U.S.C. § 112, first paragraph, enablement requirement

The Examiner rejected claims 1-16, 18-20, 24-25 and 31-54 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement.

As the Examiner knows, the test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation. M.P.E.P. § 2164.01, *citing United States v. Teletronics, Inc.* 857 F.2d 778, 785; 8 USPQ2d 1217, 1223 (Fed. Cir. 1988). A patent need not teach, and preferably omits, what is well known in the art. *Id.*, *citing Hybritech, Inc. v. Monoclonal Antibodies, Inc.* 802 F.2d 1367, 1384; 231 USPQ 81, 94 (Fed. Cir. 1986).

This rejection is traversed and rendered moot by the cancellation of claims 1-54 and submission of new claims 55-81. Newly submitted independent claim 55 sets forth the step of determining the presence or absence of a polypeptide having a mass that correlates to the predicted mass of a polypeptide encoded by an expressed mRNA. The method of claim 55 correlates mRNA and protein expression based on one physio-chemical characteristic—mass—and the protein profile of polypeptides in the biological sample is generated by mass spectrometry. Additional physio-chemical characteristics of the encoded polypeptide are predicted and used for fractionating in new dependent claim 75.

The present claims address the Examiner's concern regarding how one goes from a step of generating a gene expression profile to identifying one or physiochemical properties without having the protein. The present claims set forth the steps of determining the mRNA sequence and then predicting the amino acid sequence for the polypeptide encoded by the mRNA. The present specification teaches that an amino acid sequence can be used to detect several physio-chemical properties, including mass, hydrophobicity, hydrophilicity, isoelectric point, and glycosylation or phosphorylation sites (*see*, page 20, lines 16-26).

The present claims also address the Examiner's concern regarding post-transcriptional changes, because the gene expression profile generated in step b) identifies mRNA expressed in a sample. mRNA has already been spliced. Therefore, the transcribed amino acid sequence can reasonably be predicted from an mRNA sequence.

The present claims further address the Examiner's concerns regarding protein activity state and expression levels, because the method is directed to determining the *presence or absence* in the protein profile of a polypeptide having a mass that correlates to the predicted mass of a polypeptide encoded by the mRNA. The activity state of the polypeptide and quantified expression levels (of either mRNA or protein) are not critical to the success of the present methods.

As the Examiners agreed in the interview of July 28, 2005, Applicants' specification provides detailed guidance teaching those of skill in the art how to carry out the steps of the present methods without undue experimentation. In view of the foregoing, the Examiner is respectfully requested to withdraw the present rejection.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 925-472-5000.

Respectfully submitted,



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